

Overview of an Interconnection Facility

CPUC RNG Workshop

May 23, 2019

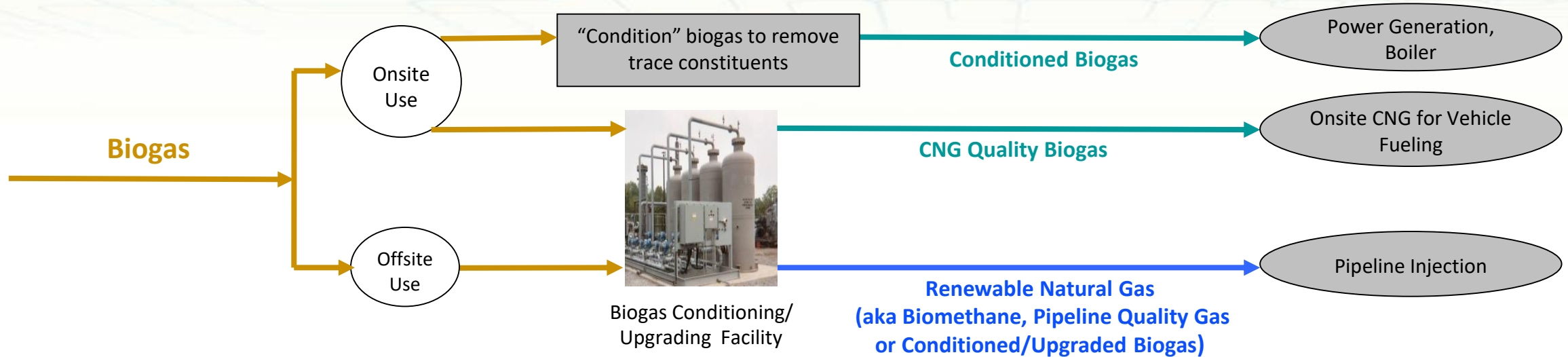
Jim Lucas

Market Development Manager



A  Sempra Energy utility

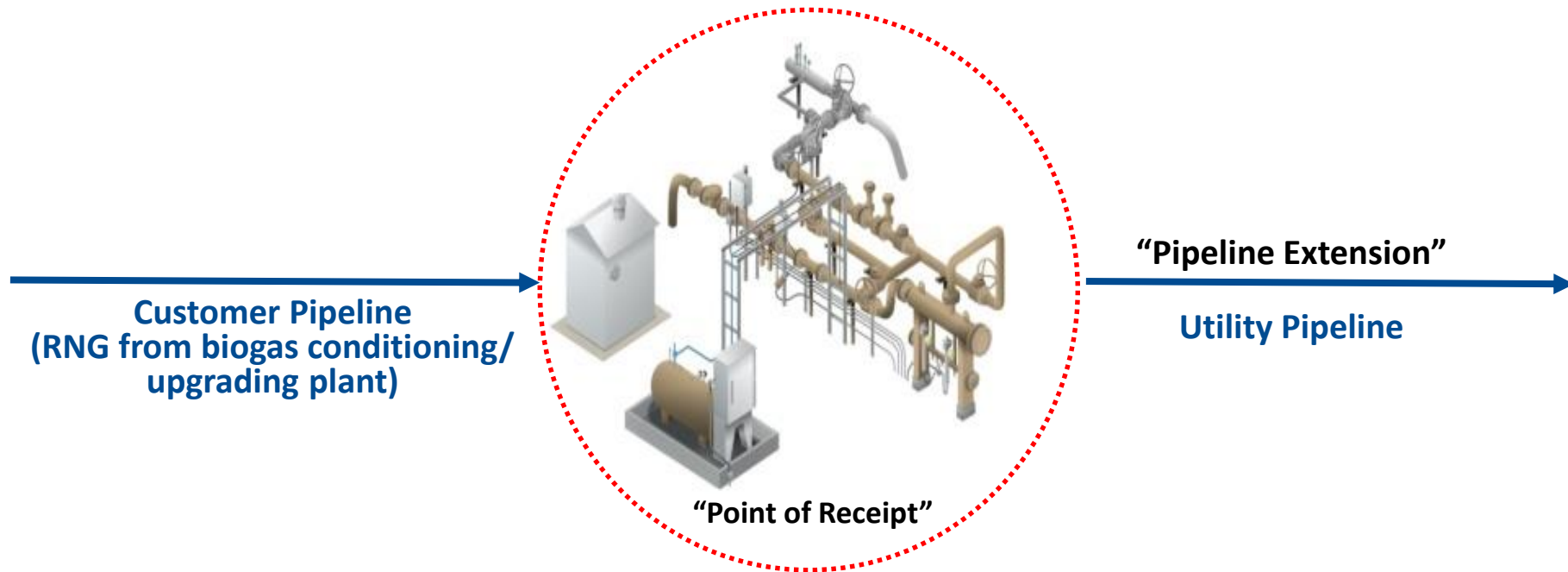
Differences Between Biogas & Renewable Natural Gas (RNG)



Primary Constituents	Biogas	“Conditioned” Biogas for Onsite Generation	“Conditioned and Upgraded” Biogas for Onsite CNG	“Conditioned and Upgraded” Biogas for Pipeline Injection (aka RNG or biomethane)
Gas Composition and Heating Value				
CH ₄	61.0%	61.0%	95.7%	98.0%
CO ₂	37.6%	37.6%	2.9%	0.85%
O ₂	0.4%	0.4%	0.4%	0.15%
N ₂	1.0%	1.0%	1.0%	1.0%
Heating Value (btu/scf)	625	625	971	994
Two of the Key Trace Constituents				
H ₂ S	300 ppm	1 ppm	1 ppm	1 ppm
Siloxanes	4,000 ppb	70 ppb	1 ppb	1 ppb

Interconnection: Overview of Components

Two Primary Components of the Term “Interconnection”



“Interconnection” = “Point of Receipt” + “Pipeline Extension”

The Interconnection Facility is funded by the developer and owned/operated by the utility

“Point of Receipt” Component of the Interconnection

The Point of Receipt:

1. **Monitors gas quality** to ensure it meets SoCalGas Rule 30 Gas Quality Specifications (e.g. CO₂, O₂, total inerts, heating value, H₂S)
2. **Prevents non-compliant gas** from entering the utility pipeline network should the monitored Rule 30 parameters not be met
3. **Meters and odorizes** the volume of RNG put into the utility pipeline network

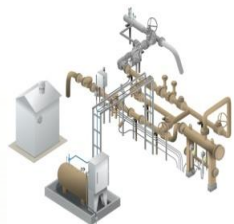


Point of Receipt at CR&R Perris

“Pipeline Extension” Component of the Interconnection

- » **Pipeline extension** is the pipe installed from the outlet of the Point of Receipt to the nearest utility pipeline having the capacity to accept the interconnector volume of RNG
- » Majority of the pipelines in streets are **distribution lines with limited takeaway capability to accept interconnector gas** during summer months (particularly in the early a.m. hours)
 - May result in high pipeline extension costs because the nearest pipeline having the capacity is miles away

Nearest SoCalGas
pipeline to Point of Receipt
(e.g. 500 feet away)
but doesn't have the
capacity



Point of Receipt

Illustration

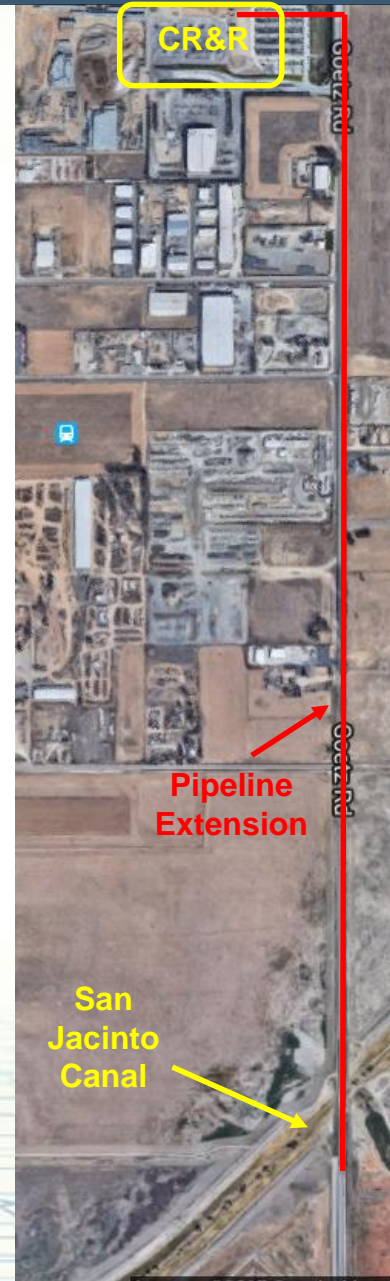
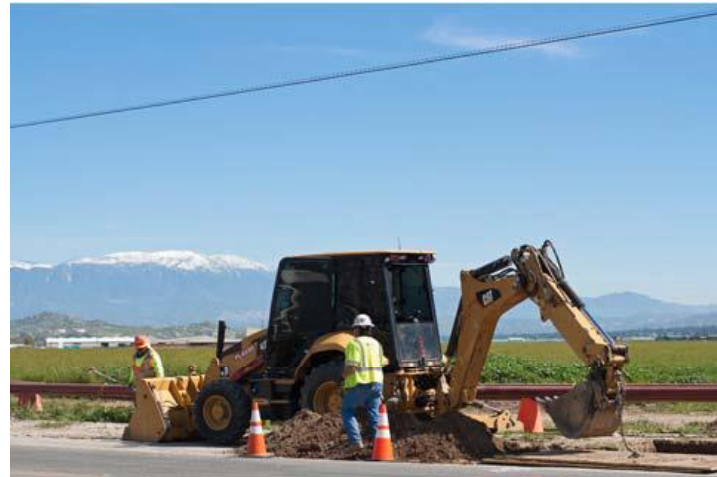
Pipeline Extension

Nearest SoCalGas
pipeline that has the
takeaway capacity
to accept supply
(e.g. – 1.4 miles away)

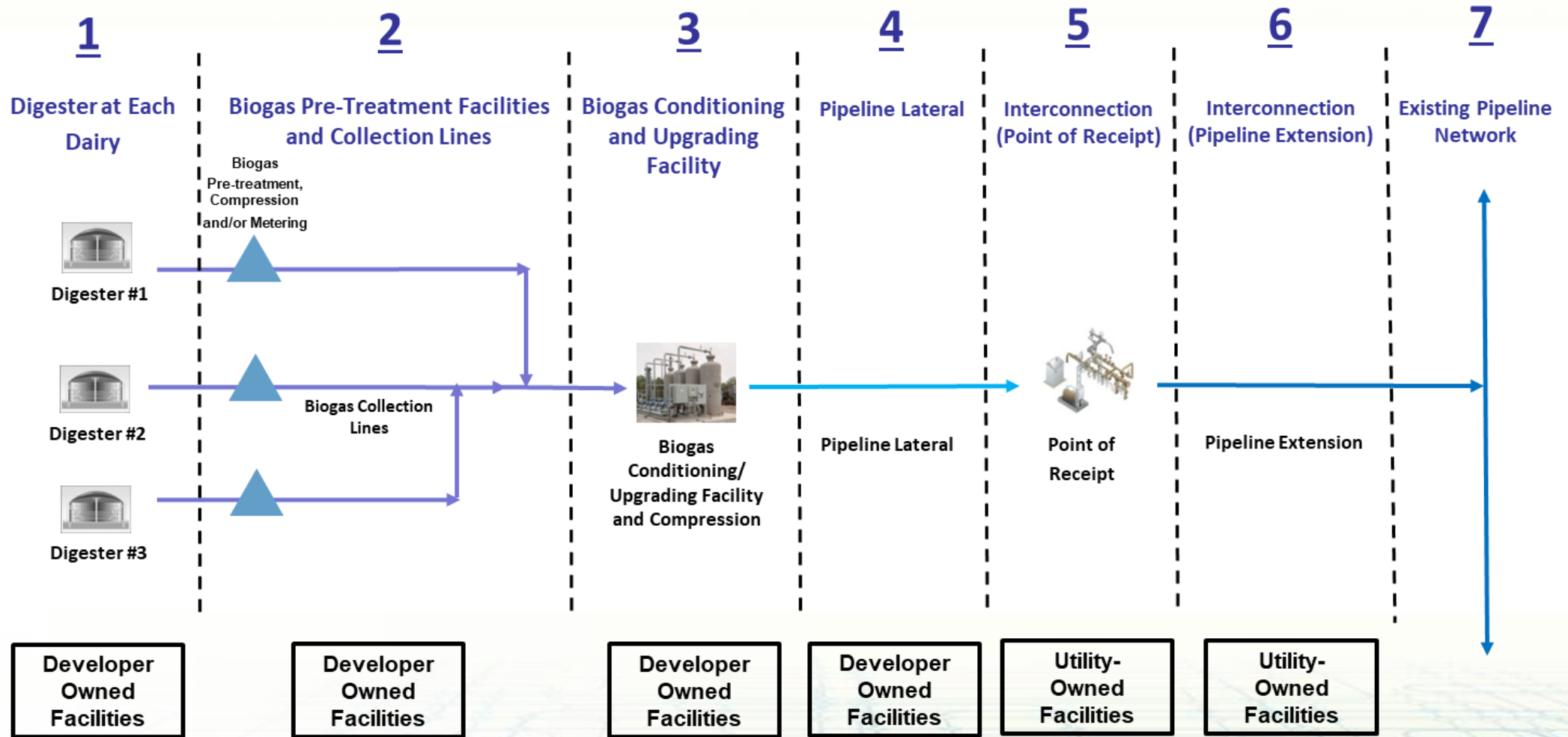
Overview of Pipeline Extension – CR&R Perris

Overview

- Installation of ~1.4 miles of 8" high pressure steel pipe (directional bore method)
- Majority of the street where pipe was installed does not have curb and gutter (minimized the need to cut asphalt/concrete)
- Pipeline crossed the San Jacinto Canal



RNG Project Facility Ownership Illustration



Interconnection Capacity versus Takeaway Capacity (Separate and Distinct Services)

» Interconnection Capacity

- The maximum physical capacity of the interconnection will be determined by the sizing of the point of receipt. It is not:
 - the capacity of the Utility's pipeline system to transport gas away from the interconnection point,
 - and is not any commitment by the Utility of takeaway capacity

» Takeaway Capacity

- The Utility separately provides takeaway services, including the option to expand system capacity to increase takeaway services, through its otherwise applicable tariffs
 - Gas Marketers/Energy Providers or end use customers can also contract for this service on behalf of interconnectors

Questions?